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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,815	10/29/2003	John Trezza	4024-4043	9556
27123	7590	03/31/2006		
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			EXAMINER NGUYEN, PHILLIP	
			ART UNIT 2828	PAPER NUMBER

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/697,815

Applicant(s)

TREZZA ET AL.

Examiner

Phillip Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8 and 10-24 is/are rejected.
- 7) ☒ Claim(s) 5 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Drawings

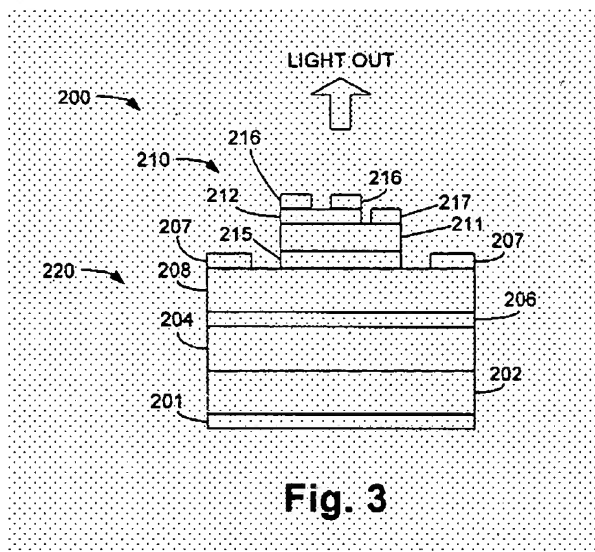
2. The drawings were received on 2/8/06. These drawings are Fig. 19.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6-7, 10-12, 14-15, and 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) in view of Tran et al. ('555).



With respect to claim 1, Aronson discloses in Fig. 3 a laser-based device comprising a VCSEL-type laser having an active side 220 and a passive side 210 opposite the active side; and a photodetector unit 210, the photodetector unit comprising an absorbing region 211, and a Schottky contact 212 having a first portion abutting the absorbing region except for the photodetector with absorbing layer being on the passive side. However, Aronson further suggests that the photodetector could be located either above or below the laser structure (col. 12, lines 39-43). Tran discloses in Fig. 6 a laser-based device comprising a VCSEL laser and a photodetector unit 74 disposed on the passive side of the device. For improvement of the device, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide the photodetector on the passive side of the laser-based device in order to measure the photon leakage from the laser as suggested by Tran (paragraph 0026). It is noted that Aroson discloses the transparent layer (211) could partially absorbs light (col. 8, ln 48-49).

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With respect to claims 2-3, Tran discloses a substrate 64 abutting the active side and comprising an access way 66 over at least a portion of the active side so that when the laser emits light through the active side, the emission will pass through the access way.

With respect to claim 4, it would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide an absorbing layer comprising a substrate (64) in the photodetector layer which is disposed on the emitting side of the laser as suggested by Tran.

With respect to claims 6-7, both lasers from Tran and Aronson are top or bottom emitting lasers. It is noted that the laser device can be placed one way or the other so that light can be emitted as desired.

With respect to claims 10-11, Aronson discloses an active side comprising an active side mirror 104/204/304 for being p-type. However, Aronson also teaches p-type could be replaced with n-type (col. 11, lines 7-11) and the mirror consists AlGaAs.

With respect to claim 12, Aronson discloses the absorbing region being ITO which is also sometimes considered as semi-insulative material (US Patent 5949944, col. 3, ln 43-44).

With respect to claims 14-15, Aronson discloses the thickness of layer 115 being at least 1000 Angstroms which is at less than 2 microns and equal 2 microns (col. 8, lines 25-44).

With respect to claims 20-24, Aronson discloses the product as cited in the rejection of claim 1, and further discloses the method of using the same product which includes measuring the photons leaked out of the laser and converted to electrical current and feed the electronic circuit to perform a compensation action based on the measured value from the photodetector (col. 1, lines 15-3 and col. 4, lines 13-30). These processes would inherently include

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determining the output power amount and adjusting a bias current for the laser as well as modulation current.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) in view of Tran et al. ('555) and further in view of Lee ('152). Aronson and Tran disclose the claimed invention except for an electronic circuit chip hybridized to the laser. Lee discloses a hybrid pickup device including photodetector, laser diode, and electronic circuit all together as seen in Fig. 4-5 and 7. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide hybridized components as taught by Lee in order to reduce the electrical connection distance.

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) in view of Jayaraman ('976). Aronson discloses the claimed invention except for teaching the absorption layer comprising Gallium Arsenide. Jayaraman discloses a monolithically integrated device with VCSEL and pin detector in Fig. 2 and 7 wherein the photodetector 16 being positioned in the bottom of the VCSEL to measure the leakage photons of the VCSEL. The photodetector 16 is disposed beneath an absorption layer 43 which comprises Gallium Arsenide. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide the absorption layer comprised Gallium Arsenide as taught by Jayaraman because it is well known in the art to use such material for absorption layer.

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6. Claims 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aronson et al. ('862) in view of Tran et al. ('555) and further in view of Morgan ('401). Aronson and Tran disclose the claimed invention except for explicitly teaching the mirror, especially on the active side, comprising at least one of a carbon, berrilium, or zinc dopant and including AlGaAs.

Morgan discloses an integrated device including both VCSEL and a photodiode in Fig. 4 with the top mirror 146 being doped with zinc and includes AlGaAs. It would have been obvious to the one having ordinary skill in the art at the time the invention was made to provide zinc doped top mirror because it is well known in the art to used AlGaAs with zinc as dopant. It has been obvious to one skilled in the art to use silicon as dopant for bottom mirror.

Allowable Subject Matter

7. Claims 5 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Communication Information

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phillip Nguyen whose telephone number is 571-272-1947. The examiner can normally be reached on 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MINSUN HARVEY, can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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JAMES
MENEFEE